CLAIMS

1. A method for method for decoding (extracting) a Linear Time Code (LTC) frame of the type used in connection with film and television and accompanying audio, comprising the steps of

(a) detecting a valid synchronization sequence within an incoming LTC frame while measuring a predetermined symbol interval relative to a reference clock;

(b) determining a LTC frame direction.

(c) decoding payload information from the LTC frame; and

(d) transferring the payload information in an order determined by the LTC frame direction.

2. The method according to claim 1 wherein the step of measuring the predetermined symbol interval duration comprises the step of measuring how many 27 MHz clock periods occur within a duration of bi-phase encoded half mark symbol interval within the LTC frame.

3. The method according to claim 2 wherein the decoding steps further comprises the step of extracting successive symbols from the LTC frame using the measured 27 MHz clock periods as a reference.

4. The method according to claim 3 wherein a minimum required symbol interval for the 27 MHz clock is seventy.

5. The method according to claim 3 wherein a maximum allowable symbol interval for the 27 MHz clock is 210,497.

6. The method according to claim 1 further including the step of filtering each incoming LTC to remove a glitch.

7. The method according to claim 1 wherein steps (a)-(d) are repeated upon receipt of for each successive LTC frame.

8. An LTC receiver for decoding (extracting) a Linear Time Code (LTC) frame of the type used in connection with film and television and accompanying audio, comprising

a) first means for detecting a valid synchronization sequence within an incoming LTC frame while measuring a predetermined symbol interval relative to a reference clock;

(b) second means for determining a LTC frame direction.

(c) third means for decoding payload information from the LTC frame; and

(d) fourth means for transferring the payload information in an order determined by the LTC frame direction.

9. The LTC receiver according to claim 8 wherein the first means includes a first counter for measuring the predetermined symbol interval duration comprises the step of measuring how many 27 MHz clock periods occur within a duration of bi-phase encoded half mark symbol interval within the LTC frame.

10. The LTC receiver according to claim 8 wherein the second means includes a second counter for counting sync pulses in the incoming LTC frame to establish a LTC frame direction.

11. The LTC receiver according to claim 8 wherein the third means includes a data symbol counter for counting symbols within the incoming LTC frame.

12. The LTC receiver according to claim 8 wherein the fourth means includes a state machine.

13. An LTC receiver for decoding (extracting) a Linear Time Code (LTC) frame of the type used in connection with film and television and accompanying audio, comprising

a) first counter for measuring a predetermined symbol interval relative to a reference clock;

a second counter for counting sync pulses within the incoming LTC frame;

a third counter for counting data symbols within the incoming LTC frame;

a shift register and

a state machine responsive to the counts of the first, second and third counters for (a) detecting a valid synchronization sequence within an incoming LTC frame, (b) determining a LTC frame direction; (c) decoding payload information from the LTC frame; and (d) for transferring the payload information to the shift register in an order determined by the LTC frame direction.

14. The apparatus according to claim 13 further comprising a glitch filter for filtering the incoming LTC frame to remove glitches.

15. The apparatus according to claim 13 wherein the first counter measures the predetermined symbol interval duration by measuring how many 27 MHz clock periods occur within a duration of bi-phase encoded half mark symbol interval within the LTC frame.